



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,604	07/07/2003	Naomi M. Jenkins	2000.107500/TT5487	7792

23720 7590 01/22/2007
WILLIAMS, MORGAN & AMERSON
10333 RICHMOND, SUITE 1100
HOUSTON, TX 77042

EXAMINER

VO, HIEN XUAN

ART UNIT	PAPER NUMBER
----------	--------------

2863

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/614,604	JENKINS ET AL.	
	Examiner	Art Unit	
	Hien X. Vo	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 20-23 and 25-50 is/are rejected.
- 7) ☒ Claim(s) 19 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-15, 26-40, 44-50 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims 1-15, 38-40, 44-50 are directed to a judicial exception, as such, pursuant to the Interim guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete and tangible result. The claims fail to include transformation from one physical state to another. Although, the claim appear useful and concrete, there does not appear to be a tangible result claimed. Merely, performing a process step upon a batch of workpieces using a processing tool; performing a tool state analysis upon said processing tool; and performing a dynamic metrology routing adjustment process based upon said tool state analysis, said dynamic metrology routing adjustment process comprising correlating said tool state analysis to said batch of workpieces and adjusting a metrology routing based upon said correlation would not appear to be sufficient to constitute a tangible result, since the outcome of the adjusting a metrology routing based upon said correlation or adjusting said metrology routing comprising modifying the position of said batch in a metrology queue step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical

Art Unit: 2863

application can be realized. As such, the subject matter of the claims is not patent eligible.

The claims 26-37 are drawn to a computer program per se. A computer program per se is abstract instructions. Therefore, a computer program is not a physical thing (product) nor a process as they are not "acts" being performed. As such these claims are not directed to one of the statutory categories of invention (see MPEP 2106.01), but are directed to nonstatutory functional descriptive material.

It is noted that computer programs embodied on a computer readable medium or other structure, which would permit the functionality of the program to be realized, would be directed to product and be within a statutory category of invention, so long as the computer readable medium is not disclosed as non-statutory subject matter per se (signals or carrier waves).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 16-25, 42-43 rejected under 35 U.S.C. 103(a) as being unpatentable over Pasadyn et al. (U.S. Patent No. 6,773,931) in view of Mih et al. (U.S. Patent No. 6,407,396).

With respect to claims 16, 17, 22, 42, Pasadyn et al. disclose a dynamic targeting for a process control system that includes performing a process step upon a batch of workpieces using a processing tool (see e.g. abstract), performing a tool state analysis upon the processing tool (see e.g. col. Col. 3, lines 40-43). Pasadyn et al. do not teach a dynamic metrology routing adjustment process based upon the tool state analysis, the dynamic metrology routing adjustment process further comprises correlating the tool state analysis to the batch of workpieces and adjusting a metrology routing based upon the correlation.

Mih et al. disclose a wafer metrology structure including a dynamic metrology routing adjustment process based upon the tool state analysis, the dynamic metrology routing adjustment process further comprises correlating the tool state analysis to the batch of workpieces and adjusting a metrology routing based upon the correlation (see e.g. Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify system of Pasadyn et al. by the wafer metrology structure as taught by Mih et al. to overcome and perform separate critical dimension measurement for each pattern formed within a semiconductor device in addition to separate overlay measurement.

With respect to claims 18, 20-21, 23, 25, 43, Pasadyn et al. disclose the invention as claimed including the process step upon the batch of workpieces further comprises performing the process step upon a batch of semiconductor wafers (see e.g. col. 13. lines 55-57), a database unit to store at least one of metrology data, tool state

data and the electrical test data (see e.g. Fig. 3. item 340), the tool state analysis upon the processing tool further comprises acquiring tool state data (see e.g. col. 14, lines 10-14), the tool state data further comprises acquiring at least one of a pressure data, a temperature data, a humidity data, and a gas flow rate data relating to the process step performed upon the workpieces (see e.g. col. 2, lines 50-54), the tool state analysis upon the processing tool further comprises performing a tool health analysis relating to the processing tool (see e.g. col. 2, lines 12-20).

Claims 19, 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Applicant's arguments with respect to claims 1-50 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien X. Vo whose telephone number is (571) 272-2282. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

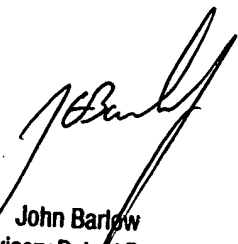
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2863

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hien Vo
01/10/07



John Barlow
Supervisory Patent Examiner
Technology Center 2800